

parietes, which commenced beneath the tentacles and passed backwards. When dilated, it was seen that the animal was destitute of a sucking disk, and that the posterior part of the body terminated in a funnel-shaped depression opening into the cavity of the body, and permitting ingress of water therein. During contraction this funnel was everted, and became a cone, through the apex of which the fluid was again ejected."

XIII.—*On some new Species of Mollusca from the North of China and Japan.* By ARTHUR ADAMS, F.L.S. &c.

Genus BUCCINUM, Linnæus.

Buccinum Japonicum, A. Adams.

B testa ovato-fusiforini; spira producta, lævigata, tenui, imperforata, epidermide corneo-fusca longitudinaliter plicata et laminata, transversim ad costas producta et fimbriata induta; anfractibus $6\frac{1}{2}$, in medio angulatis, cingulis elevatis transversis acutis (circa 6 in anfractu ultimo) instructis, interstitiis lineis elevatis longitudinalibus ornatis; basi spiraliter lirata; apertura ovata, antice breviter et late canaliculata, canali emarginata; labro margine incrassato et reflexo.

Hab. Okosiri; Sea of Japan; 35 fathoms.

This is a beautiful little species of *Buccinum* proper, about an inch in length, and with the epidermis, in fresh specimens, very prettily disposed. Like most deep-water shells, it is very thin.

Genus TRICHOTROPIS, Brod. & Sow.

Trichotropis (Iphinoë) quadricarinata, A. Adams.

T. testa turbinata, subconica; spira elata, anguste umbilicata, fusca; anfractibus $4\frac{1}{2}$, spiratis, postice angulatis; anfractibus superioribus carinulis rotundatis transversis et liris elevatusculis transversis, lineis confertis elevatis obliquis undulatis decussatis; anfractu ultimo carinulis transversis rotundatis quatuor, lineis elevatis longitudinalibus decussato, basi concavo, lirulis tribus concentricis ornato; apertura semicirculari, antice producta et vix canaliculata; labio rectiusculo; labro margine biangulato.

Hab. Mino-Sima; 63 fathoms.

Genus RISSOA, Fréminville.

1. *Rissoa miranda*, A. Adams.

R. testa pyramidato-ovata, turrata, imperforata, solida, sordide alba; anfractibus $5\frac{1}{2}$, convexis, longitudinaliter costatis, costis prominentibus, distantibus, in medio nodosim angulatis, interstitiis simplicibus, suturis zonula elevata instructis; anfractu ultimo ad

partem superiorem costato, costis validis, in medio tuberculatim angulatis, ad partem inferiorem cingulis transversis elevatis quatuor instructo; apertura ovata; labro margine extus incrassato.

Hab. Mino-Sima; 63 fathoms.

2. *Rissoa (Goniostoma) procera*, A. Adams.

R. testa aciculato-turrita, apice obtuso, alba, tenuicula; anfractibus $4\frac{1}{2}$, convexiusculis, transversim striatis; apertura ovata; peritremate integro, continuo, recto; labro antice subeffuso.

Hab. Gulf of Pe-chili; 5 fathoms.

Genus *ONOBA*, H. & A. Adams.

1. *Onoba mundula*, A. Adams.

O. testa ovato-conoidali, imperforata, pallide fusca; anfractibus $4\frac{1}{2}$, convexis, supremis longitudinaliter costellatis; anfractu ultimo lirulis transversis confertis regularibus ad partem superiorem obsolete decussatis instructo; apertura ovata, antice vix effusa; labio rufo tincto.

Hab. Korea Strait; 63 fathoms.

2. *Onoba elegantula*, A. Adams.

O. testa elevatim turbinata, umbilicata, tenui, semiopaca, alba; anfractibus $5\frac{1}{2}$, convexis, longitudinaliter obsolete strigosis, transversim creberrime striatis; apertura oblonga; peritremate simplici, acuto, continuo.

Hab. Gulf of Pe-chili; 7 fathoms (mud).

Genus *SETIA*, H. & A. Adams.

1. *Setia candida*, A. Adams.

S. testa ovato-conoidali, rimata, alba, lævi, nitida, vix opaca; anfractibus $4\frac{1}{2}$, convexis; apertura subcirculari; labio tenui, arcuato.

Hab. Sado Island; 30 fathoms.

2. *Setia tricincta*, A. Adams.

S. testa ovato-conoidali, imperforata, pallide fusca, tenui, semiopaca; anfractu ultimo fasciis tribus rufis angustis ornato; regione umbilicali rufo tincta; apertura subcirculari; labio arcuato.

Hab. Awa-Sima; in shell-sand.

3. *Setia bifasciata*, A. Adams.

S. testa ovato-conoidali, imperforata, alba, lævi, nitida, semipellucida; anfractu ultimo fasciis duabus rufo-fuscis angustis transversis succincto; anfractibus $3\frac{1}{2}$, convexiusculis; apertura subcirculari; labio in medio vix angulato.

Hab. Awa-Sima; in shell-sand.

Genus ALVANIA, Risso.

Some naturalists, of an obstructive nature, or of the "old school," refuse to see any groups which are not already in their mind's eye, and will insist on calling a thing a "spade" when it is certainly a "rake." These small shells, according to them, are species of *Rissoa*, of a short cancellated kind, with subcircular apertures, and with the peritreme usually thickened.

1. *Alvania circinata*, A. Adams.

A. testa imperforata, elevatim turbinata, tenui, pallide rufa; anfractibus $4\frac{1}{2}$, convexis, cingulis elevatis transversis rufo-fuscis subnodosis ornatis, interstitiis lineis longitudinalibus, vix elevatis cancellatis; apertura subcirculari; labio rufo-fusco tincto; labro simplici.

Hab. Island of Sado; 30 fathoms.

2. *Alvania semicostata*, A. Adams.

A. testa solida, imperforata, ovato-conica, sordide alba; anfractibus $3\frac{1}{2}$, planatis, longitudinaliter costatis, transversim liratis; costis parvis, tenuibus, distantibus, in anfractu ultimo ad peripheriam desinentibus; basi spiraliter lirata; apertura ovata, postice angustata; labro simplici.

Hab. Mino-Sima; 63 fathoms.

3. *Alvania tiarula*, A. Adams.

A. testa imperforata, tenui, turbinata, corneo-lutescente; anfractibus $3\frac{1}{2}$, planiusculis, postice coronulatis et angulatis, longitudinaliter costatis; costis validis, distantibus, lirulis elevatis decussatis; anfractu ultimo costis ad peripheriam desinentibus; basi lirulis concentricis instructa; apertura subcirculari; labro simplici.

Hab. Tabu-Sima; 25 fathoms.

4. *Alvania celata*, A. Adams.

A. testa ovato-conica, solida, imperforata, pallide fusca; anfractibus $4\frac{1}{2}$, convexiusculis, longitudinaliter costatis, transversim valde liratis; costis crassis, validis, distantibus, interstitiis liris elevatis decussatis; costis in anfractu ultimo ad peripheriam terminantibus; basi valde lirata; apertura ovata.

Hab. Tsu-Sima; 25 fathoms.

5. *Alvania clathratula*, A. Adams.

A. testa elevatim turbinata, rimata, pallide fusca; anfractibus $4\frac{1}{2}$, convexis, costis longitudinalibus elevatis et liris transversis validis regulariter clathratis; liris in anfractu ultimo ad partem anticam obsoletis; basi liris validis spiralibus instructa; apertura subcirculari.

Hab. Tsu-Sima; 16-25 fathoms.

6. *Alvania Mariella*, A. Adams.

A. testa ovato-turbinata, rimata, tenuicula, fusca; anfractibus $4\frac{1}{2}$, convexis, supremis liris longitudinalibus et transversis concinne cancellatis; anfractu ultimo liris 8 elevatis transversis, interstitiis ad partem superiorem cancellatis; apertura subcirculari; labro simplici.

Hab. Tsu-Sima; 26 fathoms. Korea Strait; 46 fathoms.

7. *Alvania concinna*, A. Adams.

A. testa ovato-conica, imperforata, solida, rufo-fuscescente, longitudinaliter costata, transversim valde lirata; costis validis, distantibus, interstitiis liris elevatis transversis decussatis; costis in anfractu ultimo ad peripheriam desinentibus; basi spiraliter lirata; apertura late ovata; labro albicante, margine subincrassato.

Hab. Tsu-Sima; 26 fathoms.

8. *Alvania ferruginea*, A. Adams.

A. testa ovato-conica, valida, crassa, solida, imperforata, ferruginea, costis validis longitudinalibus nodosis et liris elevatis transversis valde clathrata; apertura subcirculari; labro albo, margine incrassato.

Hab. Yesso (Hakodadi Bay; 7 fathoms).

GENUS CAPULUS, Montfort.

1. *Capulus japonicus*, A. Adams.

C. testa ovata, pileiformi, alba, tenui, epidermide lutescente oblecta, lineis incrementi concentricis corrugata, longitudinaliter radiatim striata; apice spirali, recurvato, ultra marginem posticum producto; apertura ovata, aperta, margine tenui, regulari, postice reflexo.

Hab. Mino-Sima; 63 fathoms.

When in fine condition, this species is sometimes faintly marked with irregular reddish-brown blotches and obscure rays.

2. *Capulus depressus*, A. Adams.

C. testa ovata, pileiformi, valde depressa, tenui, fragili, fasciis latis fuscis obsolete radiatim ornata, epidermide fusca concentricè corrugata oblecta; apice spirali, parvo, postice reclinato; apertura aperta, expansa, margine tenui, membranaceo; intus nitida, albida, calcarea, obsolete radiata aut maculosa.

Hab. Capc Notoro; Saghaleen.

GENUS LEUCOTINA, A. Adams.

1. *Leucotina insculpta*, A. Adams.

L. testa ovato-conica, rimata, alba, solidula; spira elata, acuta; anfractibus convexiusculis, transversim liris, liris planis, æquidi-

stantibus, interstitiis concinne subtiliter punctatis; apertura ovata; plica parietali superiore; labio antice subexplanato; regione umbilicali impressa, rimata.

Hab. Korea Strait; 46 fathoms.

2. *Leucotina punctata*, A. Adams.

L. testa ovata, solidiuscula, imperforata; spira producta, acuta; anfractibus planiusculis, transversim sulcatis, sulcis valde punctatis; apertura ovata; labio antice subincrassato; plica parietali superiore.

Hab. Tabu-Sima; 25 fathoms.

Genus FOSSAR, Adanson.

Fossar japonicus, A. Adams.

F. testa ovato-conica, alba, solida, anguste umbilicata; anfractibus $2\frac{1}{2}$, superne angulatis, apice parvo, acuto; anfractu penultimo cingulis tribus transversis, ultimo cingulis novem elevatis distantibus transversis instructo, interstitiis lineis elevatis longitudinalibus ornatis; apertura semiovata; labro margine crenato; rima umbilicali angusta.

Hab. Tsu-Sima; 16-26 fathoms.

Genus SAO, H. & A. Adams.

Sao lagenula, A. Adams.

S. testa cylindrico-pyramidali, antice gibbosa, regione umbilicali impressa, transversim striata, striis subdistantibus, sordide alba, apice perforata; apertura lineari, antice valde dilatata; labio brevi, incrassato; labro recto, postice producto, antice rotundato et arcuato.

Hab. Gulf of Pe-chili; 5 fathoms.

This species belongs to a natural group of *Bullidæ* indicated by my brother and myself in our 'Genera' under the name of *Sao*. The species are numerous, and some are included among the species of *Cylichna*. They belong, however, neither to that genus nor to *Atys*, under which we have placed it, approaching much nearer the *Scaphander* group.

Genus GASTROPTERON, Meckel.

Gasteropteron sinense, A. Adams.

G. animali carneicolore, ubique carmineo punctatim et reticulatim picto, corpore pallidiore, integumento subpellucido visceribus conspicuis; pedis lobis magnis, liberis, marginibus integris, rotundatis, superficie rubro punctata ac reticulata.

Hab. Hulu-Shan Bay (Regent's Sword); 3 fathoms (mud).

I obtained three individuals of this species in the dredge from

three fathoms mud. I placed them in a clear bottle of salt water, and observed them some time. Chiaje might well be excused for regarding the genus as a Pteropod, for at first sight it has all the appearance and action of a Pneumodermon. My specimens appeared to want the power of crawling altogether; the animals, after taking short flights, usually upside down, through the water, by butterfly-flappings of the side-lobes of the foot, gently alighted and remained stationary on their stomachs, with the swimming-lobes folded together over the back, until ready for another little excursion. The lower surface of this species, moreover, is coloured exactly like the fins, and shows no signs of a creeping disk. I believe the genus should be placed in the family *Lophocercidae*, or, rather, *Icaridae*; for Prof. E. Forbes had previously described *Lophocercus* under the name of *Icarus*. The Chinese species seems to differ from the Mediterranean *Gasteropteron* in being covered with crimson punctate and reticulate markings. Other points of difference are shown in my drawings.

Genus DORIPRISMATICA, D'Orbigny.

Doriprismatica festiva, A. Adams.

D. dorso plano; tentaculis luteis; pallio cæruleo ultramarino, luteo late marginato, antice et inter tentacula maculis duabus, in medio linea lata lutea longitudinali et utrinque ejus maculis sex luteis elongatis picto; branchiis luteis; pede cæruleo ultramarino, maculis albidis oblongis quinque utrinque ornato.

Hab. Tsu-Sima (among weeds in pools, low water).

A species remarkable for the vivid colouring of its body and strongly marked pattern. The proboscis (large and retractile, but short) is of a pink colour.

Genus CORYPHELLA, Gray.

Coryphella Alderi, A. Adams.

C. pallide lutea, semipellucida; tentaculis vix annulatis, luteis; tentaculis oralibus aurantiis, magnis, elongatis; branchiis fasciculatis, singula pallide lutea, linea carminea mediana picta, apice carminea.

Hab. Off Matsumai, Island of Yesso; Straits of Tsugar (on *Zostera*).

A very delicate and lovely species, about an inch long, and which I have much pleasure in dedicating to the naturalist best qualified to appreciate its beauty.

Genus APLYSIA, Gmelin.

1. *Aplysia marmorea*, A. Adams.

A. dorso elevato; lobis pedis magnis, amplis, viridi alboque mar-

moreis; tentaculis anterioribus latissimis, truncatis; tentaculis posterioribus sublinearibus, obtusis. Testa magna, tenui, fragili, antice valde dilatata; apice vix involuto, subincrassato.

Hab. Mah-lu-San (Port Hamilton); tidal pools; caught also in the sein.

A large species; sometimes 10 inches long.

2. *Aplysia marginata*, A. Adams.

A. dorso elevato; lobis pedis magnis, dilatatis, marginibus albo, deinde fusco marginatis; rufo-fusca, brunneo variegata et punctata; tentaculis anterioribus latis, brevibus, truncatis; tentaculis posterioribus parvis, subacutis. Testa fragili, tenui, semimembranacea, subtriangulari, antice dilatata ac rotundata; apice vix involuto.

Hab. Mah-lu-San (Port Hamilton); pools in rocks; low water.

Subgenus PHYCOPHILA, A. Adams.

Corpus compressum, elongatum; pedis solea angusta. Testa elongata, oblonga, tenui, plana, membranacea; apice non involuto.

3. *Aplysia (Phycophila) euchlora*, A. Adams.

A. viridis, lævis, compressa; solea angustata; tentaculis anterioribus elongatis; tentaculis posterioribus angustis, apicibus truncatis; cauda producta. Testa membranacea, oblonga, antice dilatata; apice non involuto.

Hab. Straits of Tsugar or Tseuka (crawling on floating Zosteræ).

This animal I have observed before, during the voyage of the 'Samarang.' It is figured in Mrs. Gray's 'Figures of Molluscous Animals' (tab. 179. fig. 1); it has not, however, been described. It is oceanic in its habits, or at least found at some distance from the shore. *Aplysia ocellata*, A. Ad., figured also from my drawing in Mrs. Gray's work, is another species of this subgenus.

Genus HELICINA, Lamarck.

Helicina japonica, A. Adams.

H. testa depresso-conica, crassa, solida, fusco-lutescente, oblique crebre striata; anfractibus 3½, convexiusculis; apice obtuso; anfractu ultimo ad peripheriam rotundato; basi convexa, callo tenui nitido obtecta; apertura semiovata, perobliqua; columella brevi, crassa, rotundata; peristomate duplicato, interiore tenui, recto, exteriori crasso, rotundato, reflexo. Operculum semiovatum, tenue, calcareum.

Hab. Tabu-Sima (damp banks, roots of trees).

Genus ANOMIA, Linnæus.

1. *Anomia radulina*, A. Adams.

A. testa valva dorsali ovata, irregulari, convexa, alba, radiatim costellata, costellis squamulosis, squamulis acutis imbricatis; regione umbonali lævi; apice acuto, postico; intus alba, margaritacea; cicatrice musculari superiore magna, rotundata.

Hab. Mino-Sima; 63 fathoms.

2. *Anomia pustulosa*, A. Adams.

A. testa valva dorsali ovata, regulari, planiuscula, sordide alba, lineis incrementi concentricis instructa, tuberculis confertis, rotundis, planiusculis, areolis depressis circumcinctis ornata; umbone parvo, vix prominulo, ad marginem posticum posito; intus margaritacea; margine crenulato; cicatrice musculari superiore magna, oblonga, inferne dilatata.

Hab. Tabu-Sima; 25 fathoms.

N.B. In a paper on new species of Mollusca from Japan, forwarded by me in May last from Shang-tung, for publication in the 'Annals,' I described one species under the name of *Agatha virgo*. The generic name should have been *Myonia*, not *Agatha*.

Shanghai, China,
Dec. 6, 1860.

XIV.—*On the Palæontology of the Coralline Oolites of the Neighbourhood of Oxford.* By J. F. WHITEAVES, F.G.S. &c.

[Plate IX. B.]

THE object of the following paper is to give a detailed list of the fossils from the Coralline Oolite of the neighbourhood of Oxford, in order that geologists may be enabled to compare the faunas of the same formation in the respective counties of Oxon, Berks, Yorkshire, Wilts, and Dorset.

One of the leading features in the palæontology of this stratum in the neighbourhood of Oxford is the great rarity of the Brachiopoda. During several years' active collecting I have not met with even a fragment of a shell that belonged to this family, nor do I know of a specimen in any of our local collections. The Cephalopoda of the Oxfordshire Coralline Oolites appear to have a somewhat limited range in time, being, generally speaking, confined to the Middle Oolites. This seems to favour D'Orbigny's well-known views on the limited vertical range of that class. On the other hand, many of the Bivalves and Gasteropoda occur as low down in the series as the Great and Infe-